

NOTES ON TWO SPECIES OF STOMATOPOD CRUSTACEA FROM PHUKET ISLAND, THAILAND

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Abstract.—*Clorida rotundicauda* (Miers, 1880) and *Cloridopsis bengalensis* (Tiwari and Biswas, 1952) are recorded from mangrove habitats on Phuket Island, Thailand. Miers' species is shown to be a senior synonym of *Squilla choprai* Tweedie, 1935, originally described from localities in Malaysia.

In 1977 Dawn W. Frith, then with the Phuket Marine Biological Center, Phuket, Thailand, forwarded for identification three specimens of stomatopods collected during a study of the macrofauna in mangroves at Ao Nam-Bor [07°51'N, 98°25'E], southeastern Phuket Island, southern Thailand. Two of these specimens were identified with *Clorida rotundicauda* (Miers, 1880), previously known from one specimen from Formosa, the type-locality, and one from Tsimei, near Amoy on mainland China (Schmitt, 1931). The third specimen proved to be *Cloridopsis bengalensis* (Tiwari and Biswas, 1952), known from several localities along eastern India (Tiwari and Ghosh, 1975).

Further study of the specimens of *C. rotundicauda* from Phuket had a surprising result: a second species described from mangrove swamps in Malaysia, *Clorida choprai* (Tweedie, 1935), can be identified with *C. rotundicauda*.

Neither *C. rotundicauda* nor *C. bengalensis* were included in a recent survey of the stomatopods of Phuket Island, based primarily on species from coral rubble and shale (Dingle, Caldwell and Manning, 1977). Brief accounts of these two species are given below to supplement that account.

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Clorida rotundicauda (Miers, 1880)

Fig. 1

Chloridella rotundicauda Miers, 1880:3 [listed], 15, pl. 2, figs. 5, 6.—Schmitt, 1931:130, pl. 16, figs. 3-5.

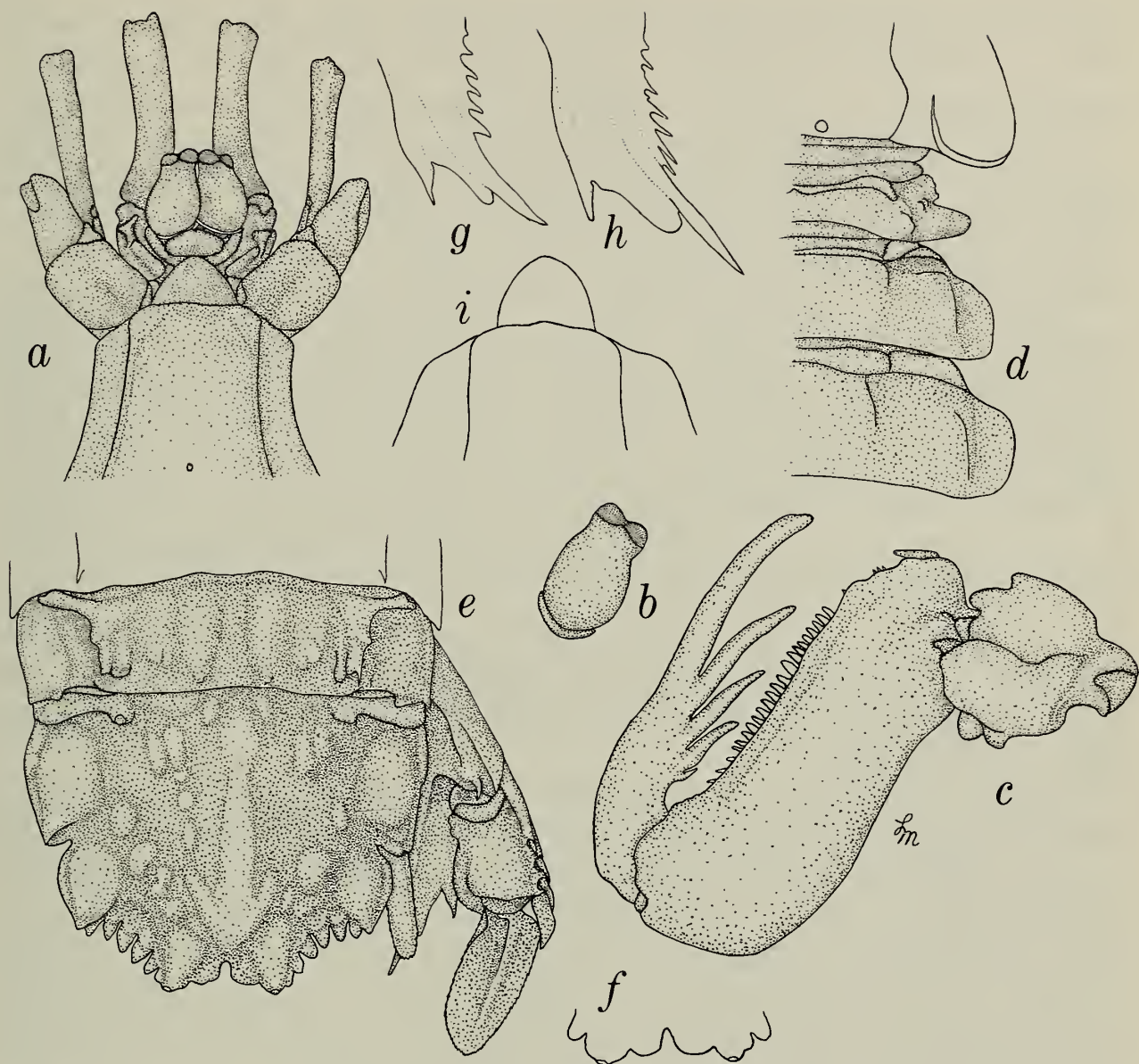


Fig. 1. a–g, *Clorida rotundicauda*, male, 79 mm, Phuket: a, Anterior part of body; b, Eye; c, Claw; d, Lateral processes of fifth, sixth and seventh thoracic somites; e, Sixth abdominal somite, telson and uropod; f, Submedian denticles of telson, ventral view; g, Basal prolongation of uropod. h–i, Male, 51 mm, Tsimei: h, Basal prolongation of uropod; i, Anterior part of carapace and rostral plate.

Squilla choprai Tweedie, 1935:49, pl. 1.—Moosa, 1973:147.

Material.—Ao Nam-Bor, Phuket Island, Thailand; mangrove mud; D. Frith, leg., zones 3A, 3B, 24 June 1977:2 ♂, total lengths 76 and 79 mm.

Diagnosis.—Eye small, stout, mesial margin flattened. Cornea very small, narrower than stalk, bilobed. Rostral plate triangular, broader than long, lacking carina. Carapace lacking median carina. Anterolateral angles of carapace occasionally unarmed. Mandibular palp and 3–4 epipods present. Dactylus of claw with 4–6 (usually 6) teeth, proximal very small. Lateral process of fifth thoracic somite bluntly pointed or rounded, unarmed. Posterior 3 thoracic and anterior 4 abdominal somites lacking submedian cari-

nae, latter occasionally faintly indicated on fifth somite. Abdominal carinae spined as follows: submedian 6, intermediate (5)6, lateral 6, marginal 5. Telson denticles 1–3, 5–6, 1. Surface of telson with raised prominences. Submedian teeth of telson with movable apices. Outer margin of uropodal exopod with 3–6 (usually 4) movable spines, distalmost enlarged, spatulate. Inner margin of basal prolongation with 4–7 large fixed spines.

Size.—Total lengths of adults 47.5 to 79 mm.

Remarks.—The specimens from Ao Nam-Bor were compared with the holotype of *C. rotundicauda*, a female 70 mm long, Schmitt's specimen from Tsimei, China, a male 51 mm long, and with accounts and illustrations prepared from syntypes of *C. choprai* examined in the collections of the Rijksmuseum van Natuurlijke Historie, Leiden (7♀, 47.5–58.5 mm) and the Zoological Survey of India, Calcutta (4♂, 20–48 mm and 5♀, 22–43 mm). No major differences were observed. The northern specimens and those from Phuket lack the anterolateral spines on the carapace; they are present on all of Tweedie's specimens examined by me, although he noted (1935:49) that spines were present only in the larger specimens he examined. The smaller specimen from Phuket has a minute denticle at the anterolateral angle of the carapace.

Schmitt's specimen from China differs from the remainder in having a slightly longer rostral plate (Fig. 1*i*), in having faint submedian carinae on the fifth abdominal somite, in lacking any trace of spines on the intermediate carinae of that somite, and in having a much broader lobe between the spines of the basal prolongation of the uropod (Fig. 1*h*). Otherwise it appears to agree with other specimens in all major respects. It may well represent a distinct species, but this species is so variable I would hesitate to recognize a related species on the basis of a single specimen.

One of the specimens from Ao Nam-Bor has but three epipods; the other and Schmitt's specimen as well, each has four, as do the types of *C. choprai*.

Habitat.—Landward and middle parts of the mangrove forest (zones 3A, B; Frith et. al., 1976:6) at Ao Nam-Bor. Tweedie's specimens also were taken in mangrove swamps.

Distribution.—Indo-West Pacific; records in the literature include:

Taiwan: (Miers, 1880).—China: Tsimei [Chi-Mei, 24°30'N, 118°07'E], mainland near Amoy (Schmitt, 1931).—Malaysia: Port Swettenham [03°00'N, 101°24'E], Selangor (Tweedie, 1935).—Singapore: Serangoon River [Sungai Serangong, 01°24'N, 103°55'E] (Tweedie, 1935; Moosa, 1973).

Cloridopsis bengalensis (Tiwari and Biswas, 1952)

Squilla bengalensis Tiwari and Biswas, 1952:352, fig. 1*b*, *c*.

Cloridopsis bengalensis.—Tiwari and Ghosh, 1975:33, fig. 1.

?*Chlorida rotundicauda*.—Frith, Tantanasiwong and Bhatia, 1976:14, 19, 35.

Material.—Ao Nam-Bor, Phuket Island, Thailand; mangrove mud; D. Frith, leg., zone 2; 24 June 1977:1 ♂, total length 105.5 mm.

Diagnosis.—Eye slender, stalk width about $\frac{1}{2}$ eye length, inner margin of stalk not expanded, cornea broader than stalk. Rostrum about as long as broad, with median carina anteriorly. Median carina of carapace lacking anterior bifurcation. Mandibular palp and 2 epipods present. Dactylus of claw with 6 teeth. Lateral process of fifth thoracic somite lacking a black spot. Abdominal carinae armed as follows: submedian 6, intermediate 5–6, lateral (1–3) 4–6, marginal 1–5. Telson denticles 3–5, 5–6, 1. Apices of submedian teeth of telson minute, movable. Telson lacking postanal keel. Outer margin of uropod with 6–7 short movable spines.

Size.—Tiwari and Ghosh (1975) recorded specimens ranging in size from 56 to 124 mm.

Remarks.—The single specimen examined agrees well with the two accounts of this species in the literature as well as with figures of a specimen from India prepared by L. K. Manning in 1972. It differs from previous accounts in that the rostrum is as long as broad rather than slightly broader, and that the lateral carinae of the anterior three abdominal somites are unarmed. The carina of the rostrum in this specimen is damaged.

Only two species of *Cloridopsis* from the Indo-West Pacific region are known to have a mandibular palp: *C. bengalensis*, in which the claw is armed with 6 teeth, and *C. terrareginensis* Stephenson, 1953, from Australia, in which the claw is armed with 5 teeth. The only other *Cloridopsis* from the area, *C. scorpio* (Latreille, 1828), which occurs on mudflats at Ang Sila, lacks the mandibular palp, has an elongate rostral plate, and has a prominent black spot on the curved lateral process of the fifth thoracic somite.

Habitat.—In mud at the landward edge of the mangrove forest. Frith *et al.* (1976:14) noted that this species (as *Chlorida rotundicauda*) was not found at other zones, and on p. 19 they note that one specimen was taken from a long horizontal burrow about 10 centimeters below the surface in zone 2.

Apparently true *Clorida rotundicauda* subsequently was taken in zone 3 along with additional material of *C. bengalensis*.

Tiwari and Ghosh (1975:37) noted that this species occurred in estuarine habitats in India.

Distribution.—Indo-West Pacific; Bay of Bengal, eastern coast of India, from localities in lower West Bengal State in the north to Andhra Pradesh State in the south, and now from Phuket Island, Thailand.

It has not been recorded previously from localities outside India.

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